swarm would often move away and return, a little later, to the first place. It swarmed within four feet of the ground, generally much lower, averaging, perhaps, two feet. The flight is so irregular that it is difficult to describe. The number of individuals participating in the swarm was about twenty. Other species swarming nearby at the same time were *Chironomus hyperboreus,* var. *meridionalis,* Joh., and the may-flies. *Ephemerella excrucians* Walsh, and *Siphlonisca aerodromia* Ndm.

Notes on Florida Thysanoptera, with description of a new genus.

By E. A. Back, Virginia Agric. Exper. Sta., Blacksburg, Va.

While in Orlando, Florida, engaged in a study of the Aleyrodid pests of *Citrus,* the writer collected several species of Thysanoptera upon which the following notes have been made.

Leptothrips aspersus Hinds.

This species previously recorded from Massachusetts, California and Barbados Island, was frequently found at all times of the year on both new and old *Citrus* foliage.

Scolothrips 6-maculatus Pergande.

The distribution of this species as given by Hinds is Missouri, Iowa, Wisconsin and Nebraska. It has been recorded by both Pergande and Bruner feeding on mites. Found feeding on red spider on *Citrus* and several weeds during Spring of 1909.

Heliothrips hemorrhoidalis Bouche.

This species, which has been spoken of as one of our worst greenhouse pests, was found specially abundant during the Fall of 1908 in colonies on the foliage of red maple (*Acer rubrum*).

Aleurodothrips fasciapennis Franklin.

This species is of special interest from an economic standpoint in that it preys upon both the citrus white-fly (*Aleyrodes citri*) and the cloudy-winged white-fly (*A. nubifera*). It has

been seen on several occasions by the writer to suck the juices of mature larvae and pupae of these insects and in one instance, during March, 1909, to find its way into a rearing cage and kill 95.5 per cent. of 163 eggs present on the leaf enclosed. Specimens may be found at almost any season of the year on *Citrus* foliage where they are especially fond of concealing themselves in the empty cocoons of *Chrysopa*. In an examination of several thousand *Citrus* leaves picked at random in groves in and about Orlando, during the fall of 1909, for the purpose of making white-fly counts, there was found an average of from two to three thrips per leaf—sometimes on an individual leaf as many as five thrips. While this thrips kills large numbers of white-fly larvae and pupae at certain times, it has not yet demonstrated itself to be of practical value in holding these pests in check.

Aeolothrips vespiformis Crawford.

During late February and March, and in less numbers during the late summer months a very conspicuous thrips was found running rapidly over the tender foliage of *Citrus*. It undoubtedly belonged to the Aeolothripidae and so closely resembled *Aeolothrips bicolor* Hinds, that the writer sent specimens to Dr. M. J. Franklin for comparison with the type material of *bicolor*. Upon making this comparison, Dr. Franklin found the Florida specimens distinctly different and in writing to that effect called attention to the description and figures of *Aeolothrips vespiformis* Crawford, which had just been published (Pomona Journal of Entomology, Vol. 1, Page 109), and had not been seen by the writer. The Florida specimens so closely agree with Crawford's description and figures (head, thorax, abdomen, wing and hind leg), that they represent either the same or a very closely allied species. Inasmuch as Crawford's description and figures were made from a single, very poorly preserved specimen and the Florida specimens show a certain range of variation, especially in regard to the number and relative position of the wing spines, the writer prefers to consider the species identical—at least until more specimens

from the habitat of the unique type, Nicaragua, are collected.

The differences, however, between *vespiformis* and the other species of the Aeolothripidae are sufficient to warrant the creation of a new genus. In all the other genera of this family thus far described, there are four or five cross veins in the fore wing. No cross veins are present in either Nicaragua (See Fig. 49C, Pomona Journal, Vol. 1, p. 111), or Florida specimens. Crawford, himself, recognized that the absence of cross veins present not only a specific difference but also a departure from the generic description of *Aeolothrips* given by Hinds. The following genus is proposed for this species:—

FRANKLINOTHRIPS new genus.

Head small, broader than long, rounded uniformly anteriorly, distinctly retracted into prothorax. Eyes prominent; ocelli present and large in size. Antennae slender, nine segments represented. Prothorax strongly rounded broader anteriorly than posteriorly, and broader than long; spines weak and inconspicuous. Wings well developed; fore wing with two well developed longitudinal veins without cross veins; veins and costa with prominent spines.

Type.—Aeolothrips vespiformis Crawford.

Although Crawford made his description and drawings from a poorly preserved specimen, one can readily identify the species by referring to his work, and taking into consideration the following additions and comments. In examining the live specimens, one is attracted by the rapidity with which the species runs. It was never seen to jump. Living color note as follows: Head and thorax purplish black, abdomen purplish black polished, basal segments lemon yellow, the basal third of following segment reddish black; tip of abdomen pale yellow. Antennae black, basal three segments whitish, with slight yellowish tinge, remaining segments pale at both extremities. Legs blackish, the femora by transmitted light show reddish and at base and on distal portion yellowish. Wings extend a trifle beyond sixth segment.

The antennae which are missing in the type specimen of *vespiformis* are long, slender, nine segmented; the relative length of segments which average about one space in width, is as follows: 1, 3 spaces; 2, 3.5; 3, 14.3; 4, 9; 5, 15.5; 6, 4.7; 7, 4; 8, 2.4; 9, 1 space. Segments clothed with sparse weak bristles.

The Florida specimens show two instead of one bristle between antennae and eye, and six instead of two on sides of head between eye and prothorax.

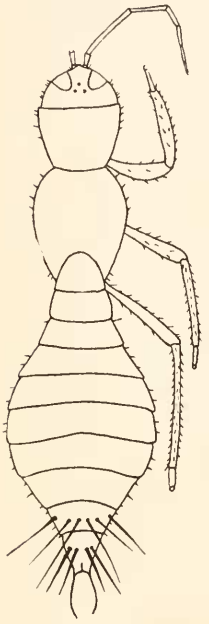

Fig. 1.—*Franklinothrips vespiformis* Crawf.

Fig. 2.—*F. vespiformis* Crawf., antenna.

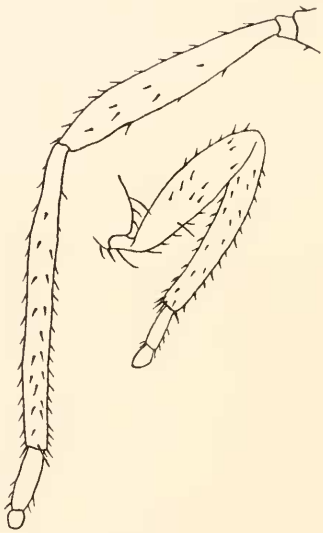

Fig. 3.—*F. vespiformis* Crawf. (*a*), hind leg; (*b*), front leg.

Mesothorax with four weak lateral bristles on anterior half.

All the legs are long and slender, moderately clothed with short weak bristles, those at tip of tibiae stronger.

Wings as described, but no reliance can be placed on number of spines on either margin or veins as the spines vary in number and even in location in different specimens. The por-

tion of the veins on the clear central area more often without than with spines.

In some specimens the abdomen expands laterally until at its widest point at the sixth segment, it is fully twice as wide as at base. Two instead of one lateral spine on fourth and fifth segments as well as on sixth and seventh; eighth segment with three lateral spines of which the central one is longest. Ninth segment with four dorsal and two lateral long conspicuous bristles and three short inconspicuous lateral ones. Tenth segment with four long dorsal bristles and two terminal bristles of nearly equal length. It is more than probable that these differences in the number of spines are due to the dilapidated condition of the type specimen.

A new species of Dicaelus from Arkansas (Coleop.).

By W. S. Blatchley, Indianapolis, Indiana.

While looking over the Bolter collection of Coleoptera, now in possession of the State Laboratory of Natural History at Urbana, Illinois, I was struck by the much greater size of two specimens from Hot Springs, Arkansas, placed with *Dicaelus sculptilis* Say. At first I passed them by with a mere comment on their size to my companion, Mr. Walter S. Abbott, now in charge of the collection. Happening to open the same box on the following day I removed one of the Arkansas specimens and was surprised to find the sculpture of the elytra differing greatly from that of *sculptilis* by its side. Careful examination revealed other notable differences, so I borrowed the specimen for a few weeks and submitted it to that well known Coleopterist, Charles W. Leng, of New York City. He coincided with my opinion that "characters other than size were sufficient to differentiate it from *sculptilis*," and that he regarded it as *Dicaelus* n. sp. I therefore herewith describe it under the name of

Dicaelus ocellatus sp. nov.

Elongate oval, broad and robust. Black, not at all shining above, feebly shining below, the legs more so; antennae piceous. Head as